



STIC Search Report

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STIC Database Tracking Number: 142159

TO: Shailendra Kumar
Location: 5c03 / 5c18
Tuesday, January 11, 2005
Art Unit: 1621
Phone: 272-0640
Serial Number: 10 / 735125

From: Jan Delaval
Location: Biotech-Chem Library
Rem 1a51
Phone: 272-2504

jan.delaval@uspto.gov

Search Notes

Jan please

ACCESS LIB#

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. Kumar Examiner #: 69594 Date: 1/10/05
Art Unit: 1621 Phone Number: 2-0640 Serial Number: 10/735125
Mail Box and Bldg/Room Location: REM 5C03 Results Format Preferred (circle) PAPER DISK E-MAIL
5C18

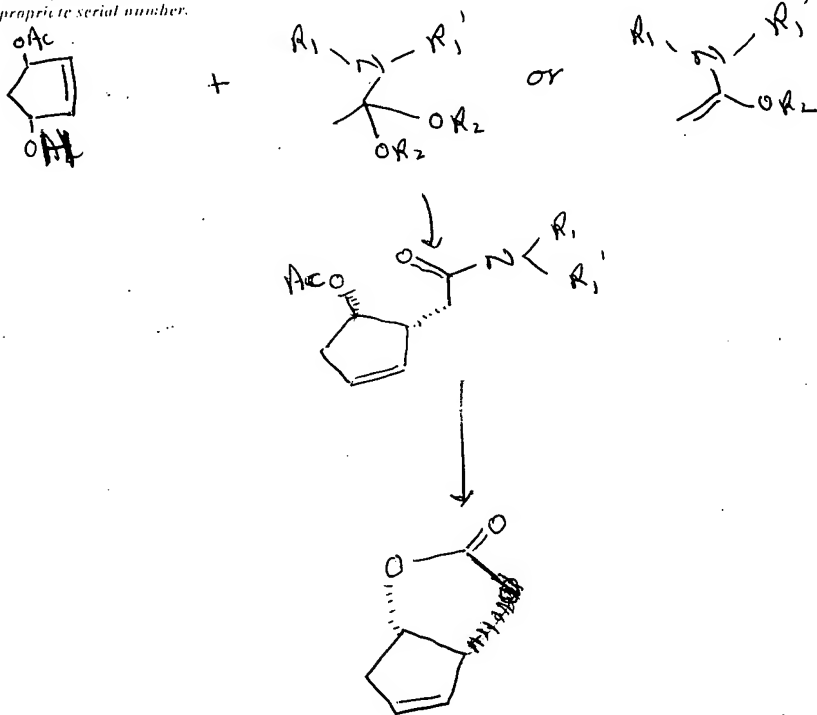
If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of invention: Process for the synthesis of 3,3A,6,6A-tetrahydro-2H-cyclopenta[b]furan-2-one
Inventors (please provide full names): Kevin Edward Henegar et al.

Earliest Priority Filing Date: 12/23/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.



STAFF USE ONLY

Searcher: Jan
Searcher Phone #: 22504
Searcher Location: _____
Date Searcher Picked Up: 1/10/05
Date Completed: 1/14/05
Searcher Prep: _____ Review Time: _____
Clerical Prep: 20
Print Time: 25

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) ✓
Bibliographic _____
Litigation _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ✓
Dialog _____
Questel/Orbit _____
Dr. Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) (CIS)

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:10:48 ON 11 JAN 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 9 JAN 2005 HIGHEST RN 810659-29-1

DICTIONARY FILE UPDATES: 9 JAN 2005 HIGHEST RN 810659-29-1

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

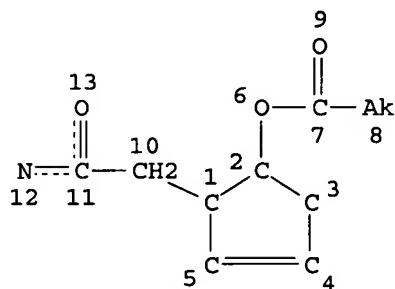
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que l21

L18

STR



NODE ATTRIBUTES:

NSPEC IS RC AT 12

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 2

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

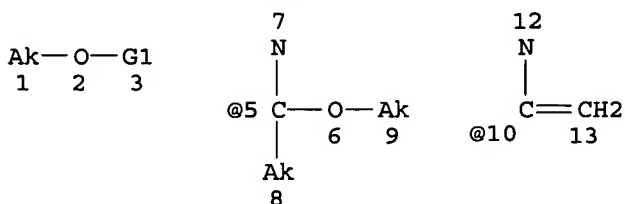
L20 13 SEA FILE=REGISTRY SSS FUL L18

L21 11 SEA FILE=REGISTRY ABB=ON PLU=ON L20 NOT (CL OR F)/ELS

=> d sta que l35

L33

STR



VAR G1=5/10

NODE ATTRIBUTES:

NSPEC IS RC AT 7
 NSPEC IS RC AT 12
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L35 266 SEA FILE=REGISTRY SSS FUL L33

100.0% PROCESSED 3899 ITERATIONS
 SEARCH TIME: 00.00.01

266 ANSWERS

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(FILE 'HOME' ENTERED AT 12:53:18 ON 11 JAN 2005)
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 12:53:24 ON 11 JAN 2005

L1 1 S US20040147775/PN OR (US2003-735125# OR US2002-435991#)/AP,PRN
 E HENEGAR K/AU
 L2 25 S E4,E6-E8
 E CEBULA M/AU
 L3 1 S E4
 SEL RN L1

FILE 'REGISTRY' ENTERED AT 12:55:03 ON 11 JAN 2005

L4 4 S E1-E4
 L5 1 S L4 AND C7H1003
 L6 1 S L4 AND C7H802
 E C7H1003/MF
 L7 127 S E3 AND C5/ES AND 1/NR
 L8 34 S L7 AND ?ACET?/CNS
 L9 12 S L8 AND DIOL
 L10 7 S L9 AND 1 3
 L11 7 S L5,L10
 E C7H802/MF
 L12 27 S E3 AND OC4-C5/ES AND 2/NR
 L13 7 S L12 AND 180.50.3/RID
 L14 6 S L13 NOT 6H
 L15 6 S L6,L14
 L16 STR
 L17 0 S L16
 L18 STR L16
 L19 1 S L18
 L20 13 S L18 FUL
 SAV L20 KUMAR735/A
 L21 11 S L20 NOT (CL OR F)/ELS

FILE 'HCAOLD' ENTERED AT 13:03:22 ON 11 JAN 2005

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 L23 0 S L21
 L24 0 S L15

FILE 'HCAPLUS' ENTERED AT 13:03:31 ON 11 JAN 2005

L25 221 S L11
 L26 5 S L21

L27 207 S L15
L28 1 S L25 AND L26
L29 9 S L25 AND L27
L30 1 S L28 AND L29
L31 1 S L28,L30
L32 4 S L26 NOT L31

FILE 'REGISTRY' ENTERED AT 13:04:36 ON 11 JAN 2005

L33 STR
L34 11 S L33
L35 266 S L33 FUL
SAV L35 KUMAR735A/A

FILE 'HCAPLUS' ENTERED AT 13:07:32 ON 11 JAN 2005

L36 673 S L35
L37 1 S L36 AND L26
L38 2 S L25 AND L36
L39 1 S L38 AND L26,L27
L40 1 S L31,L37,L39
L41 5 S L36 AND L27
L42 8 S L32,L41 NOT L40
L43 2 S L25-L27,L36 AND L1-L3
L44 3 S L25-L27,L36 AND (PHARMACIA? OR UPJOHN?)/PA,CS
L45 2 S L44 NOT PYRROLES/TI
L46 10 S L40,L42,L45

FILE 'REGISTRY' ENTERED AT 13:10:48 ON 11 JAN 2005

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 13:11:07 ON 11 JAN 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 11 Jan 2005 VOL 142 ISS 3
FILE LAST UPDATED: 10 Jan 2005 (20050110/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l46 all hitstr tot

L46 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:606559 HCAPLUS
DN 141:122416
ED Entered STN: 29 Jul 2004
TI Process for preparing enantiomerically enriched (1S,4R)
1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification
IN Henegar, Kevin Edward
PA Pharmacia & Upjohn Company, USA
SO PCT Int. Appl., 15 pp.

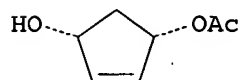
CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12P007-62
 ICS C12N009-94
 CC 16-2 (Fermentation and Bioindustrial Chemistry)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004063384	A1	20040729	WO 2004-IB45	20040105
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GH, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ				
	US 2004171129	A1	20040902	US 2004-753136	20040107
PRAI	US 2003-439953P	P	20030114		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004063384	ICM	C12P007-62
	ICS	C12N009-94

GI



I

AB This invention relates to a process for the synthesis of enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene of Formula (I), a compound useful as an intermediate in the synthesis of prostaglandins and prostanoids.

ST enzymic transesterification cyclopentenediol

IT Charcoal

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(activated; process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Resolution (separation)

(enzymic, kinetic; process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Transesterification

(enzymic, stereoselective; process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Pressure

(low, 20-60 mm.; process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Solvents

(organic; process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Crystallization

Filtration

Precipitation (chemical)

Temperature effects, biological

(process for preparing enantiomerically enriched (1S,4R) 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)

IT Diatomite

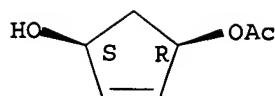
- RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 109-99-9, Tetrahydrofuran, processes 121-44-8, Triethylamine, processes 7732-18-5, Water, processes
 RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 8049-47-6, Pancreatin
 RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 108-05-4, Vinyl acetate, reactions 29783-26-4
 RL: BCP (Biochemical process); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 60176-77-4P
 RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 54664-61-8P, cis-1,4-Diacetoxycyclopent-2-ene 60410-16-4P
 RL: BYP (Byproduct); PREP (Preparation)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 142-82-5, Heptane, processes 1343-88-0, Magnesol 1634-04-4, Methyl tert-butyl ether
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- IT 60176-77-4P
 RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- RN 60176-77-4 HCAPLUS
 CN 4-Cyclopentene-1,3-diol, monoacetate, (1S,3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



- IT 60410-16-4P
 RL: BYP (Byproduct); PREP (Preparation)
 (process for preparing enantiomerically enriched (1S,4R)
 1-acetoxy-4-hydroxycyclopent-2-ene by enzymic transesterification)
- RN 60410-16-4 HCAPLUS
 CN 4-Cyclopentene-1,3-diol, monoacetate, (1R,3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



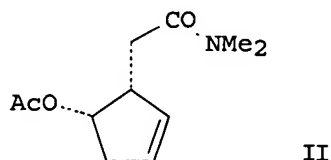
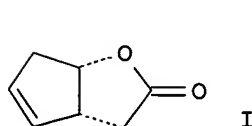
L46 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:546470 HCAPLUS
 DN 141:88963
 ED Entered STN: 08 Jul 2004
 TI Process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis
 IN Henegar, Kevin Edward; Cebula, Mateusz
 PA Pharmacia & Upjohn Company, USA
 SO PCT Int. Appl., 15 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07C235-30
 ICS C07D307-93
 CC 26-3 (Biomolecules and Their Synthetic Analogs)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004056749	A1	20040708	WO 2003-IB5978	20031210
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2004147775	A1	20040729	US 2003-735125	20031212
PRAI	US 2002-435991P	P	20021223		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004056749	ICM	C07C235-30
	ICS	C07D307-93

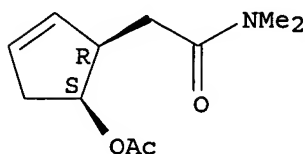
OS CASREACT 141:88963; MARPAT 141:88963
 GI



AB This present invention related to a process for the synthesis of (1S,5R)-2-oxabicyclo[3.3.0]oct-6-en-3-one (I). Thus, amide II, which was prepared by reacting (3S,5R)-3-acetoxy-5-hydroxycyclopentene with N,N-dimethylacetamide di-Me acetal, was dissolved in MTBE and treated with KOH followed by acidification of the reaction mixture to a pH of 1.0-1.5 using HCl and stirring for 1.0 h to give the desired lactone I.

ST cyclopentanfuranone asym synthesis prostaglandin intermediate
 IT Synthons
 (chiral; process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT Asymmetric synthesis and induction
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT Prostaglandins
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT Lactonization
 (stereoselective; process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT 138232-57-2P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT 43119-28-4P, (1S,5R)-2-Oxabicyclo[3.3.0]oct-6-en-3-one
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 IT 18871-66-4, N,N-Dimethylacetamide dimethyl acetal
 60176-77-4, (3S,5R)-3-Acetoxy-5-hydroxycyclopentene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Anon; PATENT ABSTRACTS OF JAPAN 1993, V017(413), PC-1092
 (2) Chisso Corp; EP 1086942 A 2001 HCAPLUS
 (3) Ema, T; JOURNAL OF ORGANIC CHEMISTRY 1996, V61(24), P8610 HCAPLUS
 (4) Sumitomo Chem Co Ltd; JP 05086002 A 1993 HCAPLUS
 IT 138232-57-2P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)
 RN 138232-57-2 HCAPLUS
 CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, (1R,5S)- (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



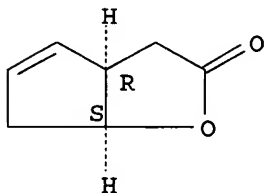
IT 43119-28-4P, (1S,5R)-2-Oxabicyclo[3.3.0]oct-6-en-3-one

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)

RN 43119-28-4 HCAPLUS

CN 2H-Cyclopenta[b]furan-2-one, 3,3a,6,6a-tetrahydro-, (3aR,6aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

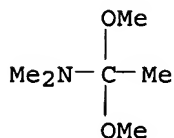


IT 18871-66-4, N,N-Dimethylacetamide dimethyl acetal
 60176-77-4, (3S,5R)-3-Acetoxy-5-hydroxycyclopentene

RL: RCT (Reactant); RACT (Reactant or reagent)
 (process for the synthesis of 3,3a,6,6a-tetrahydro-2H-cyclopentan[b]furan-2-one, a useful intermediate for prostaglandin synthesis)

RN 18871-66-4 HCAPLUS

CN Ethanamine, 1,1-dimethoxy-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 60176-77-4 HCAPLUS

CN 4-Cyclopentene-1,3-diol, monoacetate, (1S,3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L46 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:225286 HCAPLUS

DN 134:252197

ED Entered STN: 30 Mar 2001

TI Process for the preparation of optically active alcohols.

IN Ogasawara, Kunio

PA Chisso Corp., Japan

SO Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C07C043-196

ICS C07C069-013; C07C067-02; C07B053-00; C07D307-935

CC 26-3 (Biomolecules and Their Synthetic Analogs)

Section cross-reference(s): 9, 24

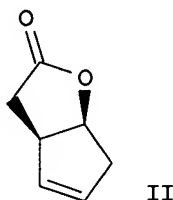
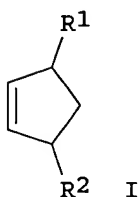
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1086942	A1	20010328	EP 2000-119371	20000911
	EP 1086942	B1	20030423		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001158758	A2	20010612	JP 2000-271610	20000907
PRAI	JP 1999-267573	A	19990921		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1086942	ICM	C07C043-196
	ICS	C07C069-013; C07C067-02; C07B053-00; C07D307-935
EP 1086942	ECLA	C07C043/196; C07C069/013; C07D307/93B1
OS	CASREACT	134:252197; MARPAT 134:252197

GI



- AB The present invention relates to an optically active alc. and the analog thereof, i.e., (+)-cis-4-cumyloxy-2-cyclopenten-1-ol (I, R1 = β -OCMe₂Ph, R2 = β -OH) and (-)-cis-1-acyloxy-4-cumyloxy-2-cyclopentene I (R1 = α -OCMe₂Ph, R2 = α -acyloxy), which are useful as intermediates for biol. active compds. such as prostaglandins, and processes for preparing them. The invention also relates to the use of the optically active alc. and the analog thereof for the preparation of (-)-oxabicyclo[3.3.0]oct-6-en-3-one (II). Thus, (\pm)-cis-4-cumyloxy-2-cyclopenten-1-ol underwent enzymic resolution with vinyl acetate and Lipase PS immobilized on Celite at room temperature for 2 h to give 50% (+)-cis-4-cumyloxy-2-cyclopenten-1-ol and 43% (-)-cis-1-acetoxy-4-cumyloxy-2-cyclopentene. (+)-Cis-4-cumyloxy-2-cyclopenten-1-ol was treated with dimethylacetamide di-Me acetal followed by cyclization to give 87% (-)-oxabicyclo[3.3.0]oct-6-en-3-one.
- ST enzymic resoln cumyloxycyclopentenol; oxabicyclooctenone prepn; cumyloxycyclopentenol prepn prostaglandin intermediate; cyclopentenol cumyloxy prepn prostaglandin intermediate
- IT Resolution (separation)
(enzymic; optically active alcs. and processes for the preparation thereof via)
- IT 258834-27-4P 258834-28-5P
RL: BPN (Biosynthetic preparation); IMF (Industrial manufacture); PUR (Purification or recovery); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(processes for the preparation of optically active alcs.)
- IT 120520-91-4P 258834-29-6P 258834-30-9P 258834-31-0P 258834-33-2P
RL: BPN (Biosynthetic preparation); IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(processes for the preparation of optically active alcs.)
- IT 43119-28-4P
RL: BPN (Biosynthetic preparation); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(processes for the preparation of optically active alcs.)

IT 18871-66-4 119487-80-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(processes for the preparation of optically active alcs.)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 43119-28-4P

RL: BPN (Biosynthetic preparation); IMF (Industrial manufacture); SPN

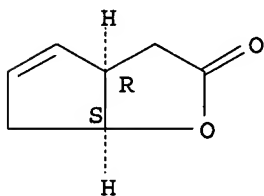
(Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(processes for the preparation of optically active alcs.)

RN 43119-28-4 HCAPLUS

CN 2H-Cyclopenta[b]furan-2-one, 3,3a,6,6a-tetrahydro-, (3aR,6aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



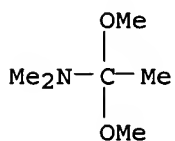
IT 18871-66-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(processes for the preparation of optically active alcs.)

RN 18871-66-4 HCAPLUS

CN Ethanamine, 1,1-dimethoxy-N,N-dimethyl- (9CI) (CA INDEX NAME)



L46 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:429530 HCAPLUS

DN 133:177121

ED Entered STN: 28 Jun 2000

TI Chiral preparation of polyoxygenated cyclopentanoids

AU Nakashima, Hiromi; Sato, Masayuki; Taniguchi, Takahiko; Ogasawara, Kunio

CS Pharmaceutical Institute, Tohoku University, Sendai, 980-8578, Japan

SO Synthesis (2000), (6), 817-823

CODEN: SYNTBF; ISSN: 0039-7881

PB Georg Thieme Verlag

DT Journal

LA English

CC 28-5 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 24

OS CASREACT 133:177121

AB A series of polyoxygenated cyclopentanoids, including 2,2-dimethyl-3a,6a-

dihydro-4H-cyclopenta[d][1,3]dioxol-4-one, was prepared in both enantiomeric forms from cyclopentadiene by employing lipase-mediated kinetic resolution as the key step. Thus, cyclopentadiene is first transformed into racemic cis-4-cumyloxy-2-cyclopenten-1-ol which is resolved under transesterification conditions in the presence of lipase PS. After transformation into the corresponding tert-butyldimethylsilyl (TBS) ethers, each of the enantiomers is cis-dihydroxylated diastereoselectively from the less hindered face which is transformed into the 2,3-O-isopropylidene-1,4-di-O-protected (trans-1,2:cis-2,3:trans-3,4)-1,2,3,4-cyclopentanetetraol. Selective removal of a 1,4-protecting group gives the corresponding 2,3,4-O-protected cyclopentanols which are further transformed into the 2,3,4-O-protected cyclopentanones on oxidation without suffering β -elimination. Exposure of the cyclopentanones to warm acetic acid allows β -elimination to give rise to the dehydration product 2,2,-dimethyl-3a,6a-dihydro-4H-cyclopenta[d][1,3]dioxol-4-one having the corresponding chirality without losing their original chiral integrity. Two of the target compds. thus prepared were (+)-(3aS,6aS)-3a,6a-dihydro-2,2-dimethyl-4H-cyclopenta-1,3-dioxol-4-one and (-)-(3aR,6aS)-3a,6a-dihydro-2,2-dimethyl-4H-cyclopenta-1,3-dioxol-4-one.

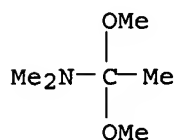
- ST cyclopentadioxolone enantiomer stereoselective synthesis; lipase resolu
methylphenylethoxy cyclopentenol prepn
- IT 258834-27-4P, (-)-(1S,4R)-4-(1-Methyl-1-phenylethoxy)-2-cyclopenten-1-ol
acetate 258834-28-5P, (+)-(1R,4S)-4-(1-Methyl-1-phenylethoxy)-2-
cyclopenten-1-ol
RL: BPN (Biosynthetic preparation); RCT (Reactant); BIOL (Biological
study); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)
- IT 18871-66-4, N,N-Dimethylacetamide dimethyl acetal 57702-56-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)
- IT 43119-28-4P, (3aR,6aS)-3,3a,6,6a-Tetrahydro-2H-cyclopenta[b]furan-
2-one 65457-77-4P, 4-(1-Methyl-1-phenylethoxy)-2-cyclopenten-1-one
119487-80-8P, (1R,4S)-rel-4-(1-Methyl-1-phenylethoxy)-2-cyclopenten-1-ol
120520-91-4P 174149-60-1P 258834-29-6P 258834-30-9P,
(-)-(1S,4R)-4-(1-Methyl-1-phenylethoxy)-2-cyclopenten-1-ol 258834-31-0P
258834-33-2P 273381-20-7P 273381-21-8P 273381-22-9P 273381-23-0P,
(+)-(3aS,6R,6aS)-Tetrahydro-2,2-dimethyl-6-(1-methyl-1-phenylethoxy)-4H-
cyclopenta-1,3-dioxol-4-one 273381-26-3P 273750-68-8P 288269-02-3P
288269-03-4P 288269-04-5P 288269-05-6P 288269-06-7P 288269-07-8P,
(-)-(3aR,6S,6aR)-Tetrahydro-2,2-dimethyl-6-(1-methyl-1-phenylethoxy)-4H-
cyclopenta-1,3-dioxol-4-one
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)
- IT 104010-72-2P, (+)-(3aS,6aS)-3a,6a-Dihydro-2,2-dimethyl-4H-cyclopenta-1,3-
dioxol-4-one 115509-13-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

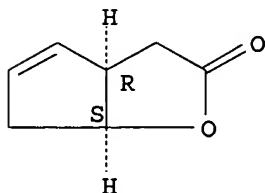
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 IT 18871-66-4, N,N-Dimethylacetamide dimethyl acetal
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)
 RN 18871-66-4 HCAPLUS
 CN Ethanamine, 1,1-dimethoxy-N,N-dimethyl- (9CI) (CA INDEX NAME)



- IT 43119-28-4P, (3aR,6aS)-3,3a,6,6a-Tetrahydro-2H-cyclopenta[b]furan-2-one
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of dihydrodimethyl-4H-cyclopenta-1,3-dioxolone enantiomers)
 RN 43119-28-4 HCAPLUS
 CN 2H-Cyclopenta[b]furan-2-one, 3,3a,6,6a-tetrahydro-, (3aR,6aS)- (9CI) (CA INDEX NAME)

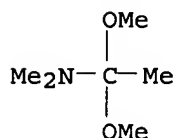
Absolute stereochemistry. Rotation (-).



- L46 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1999:726403 HCAPLUS
 DN 132:166037
 ED Entered STN: 15 Nov 1999
 TI Lipase-mediated resolution of cis-4-cumyloxy-2-cyclopenten-1-ol and its utilization for enantioconvergent preparation of (-)-oxabicyclo[3.3.0]oct-6-en-3-one
 AU Nakashima, Hiromi; Sato, Masayuki; Taniguchi, Takahiko; Ogasawara, Kunio
 CS Pharmaceutical Institute, Tohoku Univ., Sendai, 980, Japan
 SO Synlett (1999), (11), 1754-1756
 CODEN: SYNLES; ISSN: 0936-5214
 PB Georg Thieme Verlag

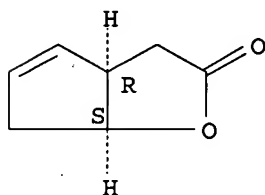
DT Journal
LA English
CC 26-3 (Biomolecules and Their Synthetic Analogs)
OS CASREACT 132:166037
AB A convenient preparation of both enantiomers of cis-4-cumyloxy-2-cyclopenten-1-ol from cyclopentadiene employing a lipase-mediated resolution was established. The efficient enantioconvergent transformation of both enantiomeric products afforded (-)-oxabicyclo[3.3.0]oct-6-en-3-one, an important building block of prostaglandin synthesis.
ST oxabicyclooctenone prostaglandin precursor stereoselective prepn; cumyloxycyclopentenol prepn enzymic resolu
IT Resolution (separation)
(enzymic; lipase-mediated resolution of cumyloxycyclopentenol)
IT Prostaglandins
RL: PNU (Preparation, unclassified); PREP (Preparation)
(stereoselective preparation of precursor oxabicyclo[3.3.0]octenone)
IT 258834-30-9P
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 120520-91-4P 258834-27-4P 258834-31-0P 258834-33-2P
RL: BPN (Biosynthetic preparation); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 119487-80-8P
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 258834-28-5P
RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 80-15-9, Cumyl hydroperoxide 542-92-7, Cyclopentadiene, reactions 18871-66-4, Dimethylacetamide dimethyl acetal
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 57702-56-4P 65457-77-4P 258834-26-3P 258834-29-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
IT 43119-28-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective preparation of oxabicyclo[3.3.0]octenone via lipase-mediated resolution of cumyloxycyclopentenol)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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 (14) Takano, S; J Chem Soc, Chem Commun 1976, P189 HCAPLUS
 (15) Wick, A; Helv Chim Acta 1964, V47, P2425 HCAPLUS
 IT 18871-66-4, Dimethylacetamide dimethyl acetal
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (stereoselective preparation of oxabicyclo[3.3.0]octenone via
 lipase-mediated resolution of cumyloxycyclopentenol)
 RN 18871-66-4 HCAPLUS
 CN Ethanamine, 1,1-dimethoxy-N,N-dimethyl- (9CI) (CA INDEX NAME)



IT 43119-28-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (stereoselective preparation of oxabicyclo[3.3.0]octenone via
 lipase-mediated resolution of cumyloxycyclopentenol)
 RN 43119-28-4 HCAPLUS
 CN 2H-Cyclopenta[b]furan-2-one, 3,3a,6,6a-tetrahydro-, (3aR,6aS)- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry. Rotation (-).



L46 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:674393 HCAPLUS
 DN 126:59520
 ED Entered STN: 15 Nov 1996
 TI Kinetic Resolution of Racemic 2-Substituted 3-Cyclopenten-1-ols by
 Lipase-Catalyzed Transesterifications: A Rational Strategy To Improve
 Enantioselectivity
 AU Ema, Tadashi; Maeno, Soichi; Takaya, Yusuke; Sakai, Takashi; Utaka,
 Masanori
 CS Faculty of Engineering, Okayama University, Okayama, 700, Japan
 SO Journal of Organic Chemistry (1996), 61(24), 8610-8616
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 CC 22-4 (Physical Organic Chemistry)
 Section cross-reference(s): 7, 24, 26
 OS CASREACT 126:59520
 AB The effect of the acyl group of acylating agents on the enantioselectivity
 in the Pseudomonas cepacia lipase-catalyzed acylations of racemic alcs.
 has been studied. 2-[(N,N-Dimethylcarbamoyl)methyl]-3-cyclopenten-1-ol

(1) and 2-[2-(tert-butyldimethylsilyloxy)ethyl]-3-cyclopenten-1-ol (4) were resolved with a variety of enantioselectivities. In the case of alc. 1, the enantiomeric ratio (the E value) was increased by changing the acylating agent from vinyl acetate (E = 30) to vinyl butyrate (E = 156) and dropped substantially with longer acyl donors. With vinyl chloroacetate, the reaction rate was fast and the enantioselectivity was high (E = 89), whereas the resolution with vinyl trifluoroacetate resulted in a very poor enantioselectivity (E = 4). The bulky acylating agent, vinyl pivalate, gave a moderate enantioselectivity (E = 15). In the case of alc. 4, the enantioselectivities were excellent (E > 142) except with vinyl pivalate (E = 12). The acyl group transiently attached at the active site of the lipase acts as a stereochem. controller. The solvent effect is also described briefly. A clear correlation was observed between the E values and the log P values of the organic solvents; the smaller the log P value of the solvent, the higher the E value.

- ST kinetic resoln cyclopentenol lipase catalyzed transesterification; acyl group effect lipase catalyzed transesterification
- IT Functional groups
(acyl group as stereochem. controller; kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT Transesterification
(biol.; kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT Solvent effect
(enantioselectivity vs. log P; kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT Carboxylic acids, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(esters, vinyl; kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT Chemical chains
Steric hindrance
(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT Resolution (separation)
(kinetic; kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT 9001-62-1
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT 105-38-4, Vinyl propanoate 108-05-4, Vinyl acetate, reactions
123-20-6, Vinyl butanoate 433-28-3, Vinyl trifluoroacetate 769-78-8, Vinyl benzoate 818-44-0, Vinyl octanoate 2549-51-1, Vinyl chloroacetate 3050-69-9, Vinyl hexanoate 3377-92-2, Vinyl pivalate 4704-31-8, Vinyl decanoate 14861-06-4, Vinyl crotonate
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT 75283-63-5P 149252-74-4P
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)
- IT 43119-28-4P 49826-08-6P 149341-16-2P 176965-37-0P
176965-38-1P 176965-39-2P 176965-40-5P

176965-41-6P 176965-42-7P 176965-43-8P 176965-44-9P
176965-45-0P 176965-46-1P 177185-92-1P 180187-46-6P
184682-84-6P 184682-85-7P 184682-88-0P 184682-91-5P 184851-05-6P
184851-06-7P

RL: PUR (Purification or recovery); SPN (Synthetic preparation); PREP
(Preparation)

(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by
lipase-catalyzed transesterifications with vinyl esters)

IT 26054-46-6 54483-55-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by
lipase-catalyzed transesterifications with vinyl esters)

RE.CNT 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT 176965-37-0P 176965-38-1P 176965-39-2P
 176965-40-5P 176965-41-6P 176965-44-9P
 176965-46-1P 177185-92-1P

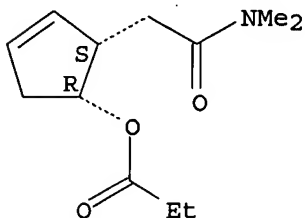
RL: PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)

(kinetic resolution of racemic 2-substituted 3-cyclopenten-1-ols by lipase-catalyzed transesterifications with vinyl esters)

RN 176965-37-0 HCAPLUS

CN 2-Cyclopentene-1-acetamide, N,N-dimethyl-5-(1-oxopropoxy)-, (1S-cis)-(9CI) (CA INDEX NAME)

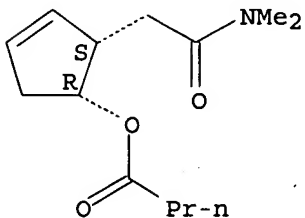
Absolute stereochemistry.



RN 176965-38-1 HCAPLUS

CN Butanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

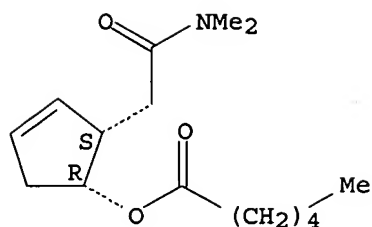
Absolute stereochemistry.



RN 176965-39-2 HCAPLUS

CN Hexanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

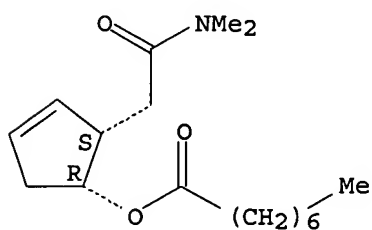
Absolute stereochemistry.



RN 176965-40-5 HCAPLUS

CN Octanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

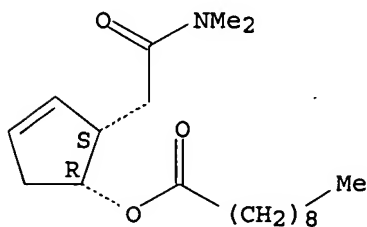
Absolute stereochemistry.



RN 176965-41-6 HCAPLUS

CN Decanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

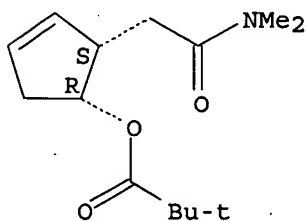
Absolute stereochemistry.



RN 176965-44-9 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

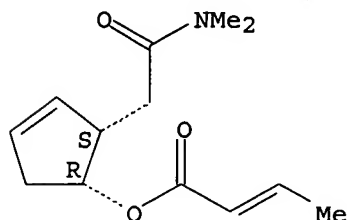
Absolute stereochemistry.



RN 176965-46-1 HCAPLUS

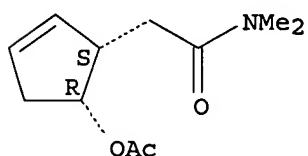
CN 2-Butenoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



RN 177185-92-1 HCAPLUS
CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, (1S-cis)- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



L46 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:215506 HCAPLUS
DN 125:10208
ED Entered STN: 16 Apr 1996
TI Significant effect of acyl groups on enantioselectivity in
lipase-catalyzed transesterifications
AU Ema, Tadashi; Maeno, Soichi; Takaya, Yusuke; Sakai, Takashi; Utaka,
Masanori
CS Dep. Appl. Chem., Okayama Univ., Okayama, 700, Japan
SO Tetrahedron: Asymmetry (1996), 7(3), 625-8
CODEN: TASYE3; ISSN: 0957-4166
PB Elsevier
DT Journal
LA English
CC 24-4 (Alicyclic Compounds)
OS CASREACT 125:10208
AB The effect of the acyl group of acylating agents on the enantioselectivity
in the lipase-catalyzed transesterifications of racemic
2-[(N,N-dimethylcarbamoyl)methyl]-3-cyclopenten-1-ol in diisopropyl ether
was found to be significant. The enantioselectivity was enhanced markedly
by changing the acylating agent from vinyl acetate to vinyl butyrate, and
dropped substantially with longer acyl donors. Other acyl donors were
also examined
ST carbamoylmethylcyclopentenol enantioselective transesterification lipase
catalyst
IT Stereochemistry
(effect of acyl groups on enantioselectivity in lipase-catalyzed
transesterifications)
IT Transesterification
(enzymic, effect of acyl groups on enantioselectivity in
lipase-catalyzed transesterifications)
IT 176965-37-0P 176965-38-1P 176965-39-2P 176965-40-5P 176965-41-6P 176965-42-7P 176965-43-8P
176965-44-9P 176965-45-0P 176965-46-1P
177185-92-1P

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(effect of acyl groups on enantioselectivity in lipase-catalyzed transesterifications)

IT 138232-58-3P

RL: BPN (Biosynthetic preparation); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(effect of acyl groups on enantioselectivity in lipase-catalyzed transesterifications)

IT 105-38-4, Vinyl propanoate 108-05-4, Vinyl acetate, reactions
123-20-6, Vinyl butyrate 433-28-3, Vinyl trifluoroacetate 769-78-8,
Vinyl benzoate 818-44-0 2549-51-1, Vinyl chloroacetate 3050-69-9
3377-92-2 4704-31-8 14861-06-4 149341-16-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of acyl groups on enantioselectivity in lipase-catalyzed transesterifications)

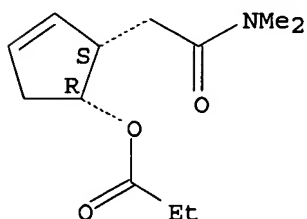
IT 176965-37-0P 176965-38-1P 176965-39-2P
176965-40-5P 176965-41-6P 176965-44-9P
176965-46-1P 177185-92-1P

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(effect of acyl groups on enantioselectivity in lipase-catalyzed transesterifications)

RN 176965-37-0 HCAPLUS

CN 2-Cyclopentene-1-acetamide, N,N-dimethyl-5-(1-oxopropoxy)-, (1S-cis)-(9CI) (CA INDEX NAME)

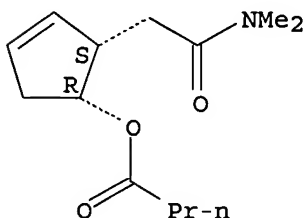
Absolute stereochemistry.



RN 176965-38-1 HCAPLUS

CN Butanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)-(9CI) (CA INDEX NAME)

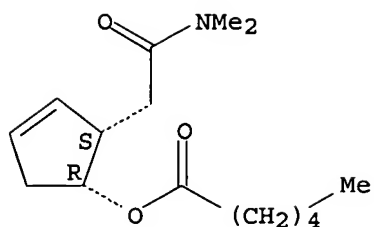
Absolute stereochemistry.



RN 176965-39-2 HCAPLUS

CN Hexanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester, (1R-cis)-(9CI) (CA INDEX NAME)

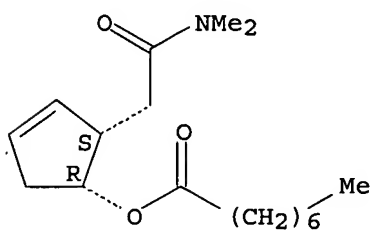
Absolute stereochemistry.



RN 176965-40-5 HCAPLUS

CN Octanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester,
(1R-cis)- (9CI) (CA INDEX NAME)

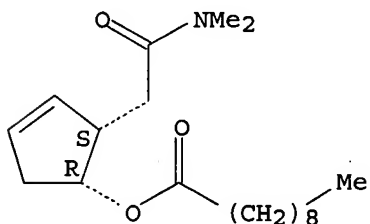
Absolute stereochemistry.



RN 176965-41-6 HCAPLUS

CN Decanoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester,
(1R-cis)- (9CI) (CA INDEX NAME)

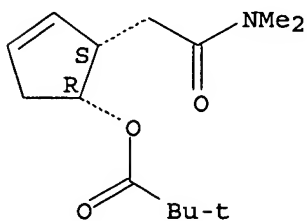
Absolute stereochemistry.



RN 176965-44-9 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester,
(1R-cis)- (9CI) (CA INDEX NAME)

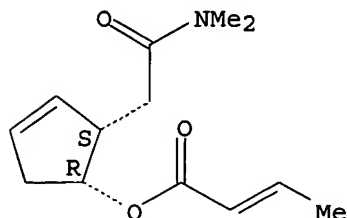
Absolute stereochemistry.



RN 176965-46-1 HCAPLUS

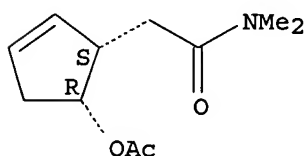
CN 2-Butenoic acid, 2-[2-(dimethylamino)-2-oxoethyl]-3-cyclopenten-1-yl ester,
(1R-cis)- (9CI). (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



RN 177185-92-1 HCAPLUS
CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, (1S-cis)- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



L46 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:517024 HCAPLUS
DN 119:117024
ED Entered STN: 18 Sep 1993
TI Preparation of optically active cyclopentenols as intermediates for
prostaglandins.
IN Sakai, Takashi; Iida, Yasuhiro; Kikuyama, Shigeki; Tsuboi, Sadao; Uko,
Masanori
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C235-30
ICS C07B057-00; C07D307-93; C12P041-00
CC 26-3 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 9
FAN.CNT 1

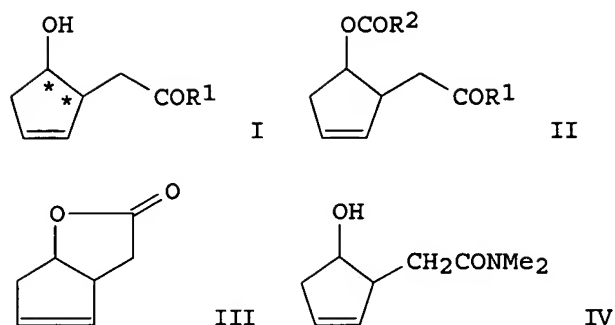
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05086002	A2	19930406	JP 1991-234653	19910913
	JP 3024299	B2	20000321		
PRAI	JP 1991-234653		19910913		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 05086002	ICM	C07C235-30
	ICS	C07B057-00; C07D307-93; C12P041-00

OS CASREACT 119:117024; MARPAT 119:117024

GI



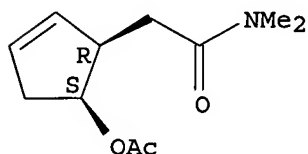
- AB The title compds. [I; R1 = (un)substituted alkyl, (un)substituted amino; asterisks signifies stereogenic carbon] are prepared via stereoselective hydrolysis of the esters II [R2 = alkyl] by an esterase. Thus, cis-dihydro[3.2.0]hept-2-en-6-one was oxidized with H₂O₂ to give the lactone III, which was amidated with dimethylamine, the resulting racemic amide IV was O-acetylated with AcCl, the resulting II [R1 = NMe₂, R2 = Me] (V) was hydrolyzed with lipase, and the resulting (+)- and (-)-I (R1 = NMe₂) were sep. purified.
- ST optically active cyclopentenol prepn; prostaglandins intermediate prepn
- IT Prostaglandins
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (intermediates for, hydroxycyclopenteneacetic acid derivs. as)
- IT Resolution
 (of cyclopentenols by enzymic stereoselective hydrolysis)
- IT Hydrolysis
 (stereoselective, of hydroxycyclopenteneacetic acid derivs.)
- IT 124-40-3, Dimethylamine, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amidation by, of hydroxycyclopenteneacetic acid lactone)
- IT 13173-09-6, Bicyclo[3.2.0]hept-2-en-6-one
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of)
- IT 26054-46-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and amidation of, with dimethylamine)
- IT 149252-75-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and enzymic resolution of)
- IT 149252-74-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and esterification of, with acetyl chloride)
- IT 149341-16-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and hydrolysis of)
- IT 54483-22-6P 138232-58-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
- IT 9001-62-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (stereoselective hydrolysis by, of hydroxycyclopenteneacetamide derivative)
- IT 149252-75-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and enzymic resolution of)

RN 149252-75-5 HCAPLUS

CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, cis- (9CI) (CA INDEX NAME)

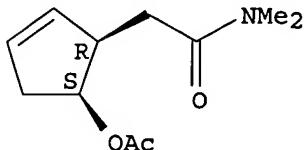
Relative stereochemistry.



L46 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:37406 HCAPLUS
 DN 116:37406
 ED Entered STN: 08 Feb 1992
 TI Lipase-catalyzed resolution of 2-substituted 3-cyclopenten-1-ol derivatives
 AU Sakai, Takashi; Iida, Yasuhiro; Kikuyama, Shigeki; Tsuboi, Sadao; Utaka, Masanori
 CS Fac. Eng., Okayama Univ., Okayama, 700, Japan
 SO Chemistry Letters (1991), (9), 1651-2
 CODEN: CMLTAG; ISSN: 0366-7022
 DT Journal
 LA English
 CC 9-14 (Biochemical Methods)
 Section cross-reference(s): 26
 OS CASREACT 116:37406
 AB 2-Oxabicyclo[3.3.0]oct-6-ene-3-one, the key intermediate in the prostaglandin synthesis, was subjected to the optical resolution by use of lipase after conversion to 2-[2-(tert-butyldimethylsilyloxy)ethyl]-3-cyclopenten-1-yl acetate and 2-[2-(N,N-dimethylcarbamoyl)methyl]-3-cyclopenten-1-yl acetate.
 ST cyclopentenol deriv resoln lipase
 IT 9001-62-1
 RL: ANST (Analytical study)
 (in resolution of 2-substituted 3-cyclopentene-1-ol derivs.)
 IT 138232-58-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclization of)
 IT 138232-55-0P 138232-56-1P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reduction of)
 IT 75283-63-5P 138110-73-3P
 RL: PREP (Preparation)
 (preparation and resolution using lipase)
 IT 49826-08-6P 54483-22-6P 54483-54-4P 138232-57-2P
 RL: PREP (Preparation)
 (preparation of)
 IT 26054-46-6
 RL: PROC (Process)
 (reduction and derivatization of)
 IT 149252-74-4 149252-75-5
 RL: PROC (Process)
 (resolution of, by lipase)
 IT 138232-57-2P
 RL: PREP (Preparation)
 (preparation of)
 RN 138232-57-2 HCAPLUS

CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, (1R,5S)- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



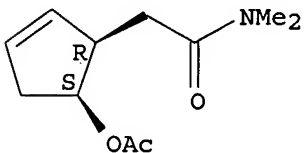
IT 149252-75-5

RL: PROC (Process)
(resolution of, by lipase)

RN 149252-75-5 HCAPLUS

CN 2-Cyclopentene-1-acetamide, 5-(acetyloxy)-N,N-dimethyl-, cis- (9CI) (CA
INDEX NAME)

Relative stereochemistry.



L46 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:510772 HCAPLUS

DN 109:110772

ED Entered STN: 01 Oct 1988

TI Total synthesis of pseudomonic acid C

AU Barrish, Joel C.; Lee, Hsi Lin; Mitt, Toomas; Pizzolato, Giacomo;
Baggiolini, Enrico G.; Uskokovic, Milan R.

CS Chem. Res. Dep., Hoffmann-La Roche, Inc., Nutley, NJ, 07110, USA

SO Journal of Organic Chemistry (1988), 53(18), 4282-95

CODEN: JOCEAH; ISSN: 0022-3263

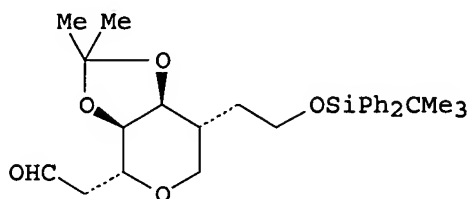
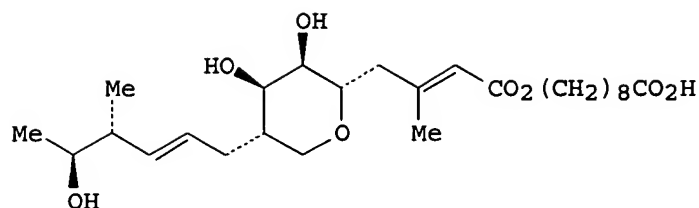
DT Journal

LA English

CC 33-3 (Carbohydrates)

OS CASREACT 109:110772

GI



- AB Total synthesis of pseudomonic acid C (I) was carried out from simple starting materials via a large number of steps. Key intermediate II was prepared by 2 distinct routes. A new approach for the introduction of side-chain stereochem. was developed by using the chirality of the central pyran fragment.
- ST pseudomonic acid C synthesis
- IT 108306-38-3, 3,5-Hexadienoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of phenethylamine)
- IT 92516-83-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with (dioxolopyranyl)propanone derivative, in total synthesis of pseudomonic acid C)
- IT 79-14-1, Glycolic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with benzyl bromide)
- IT 49826-00-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(lactonizations of, in total synthesis of pseudomonic acid C)
- IT 107148-30-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and (benzyloxy)acetylation of)
- IT 115118-80-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and acetonation of)
- IT 115118-85-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and coupling of, with dioxoparacetaldehyde derivative, in total synthesis of pseudomonic acid C)
- IT 115118-81-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of, with ethylene glycol)
- IT 115118-77-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of, with formaldehyde)
- IT 115183-64-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydroiodination of)

IT 115118-74-6P 115118-75-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and dehydroxylation of)

IT 89726-76-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and deprotection of)

IT 115118-71-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and epoxidn. of, in synthesis of pseudomonic acid C)

IT 115140-93-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and hydrogenation of)

IT 115118-86-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and hydrogenolysis of)

IT 115140-92-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and hydroxylation of)

IT 115118-83-7P 115118-88-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and iodination of)

IT 115118-78-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and iodolactonization of)

IT 115118-72-4P 115118-90-6P 115118-92-8P 115183-68-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and oxidation of)

IT 105459-05-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with (hydroxypropenyl)dioxolopyranethanol
derivative)

IT 115118-84-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with benzenesulfinic acid)

IT 107148-23-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with dimethylacetamide di-Me acetal)

IT 107148-31-2P 115118-87-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with lithium diisopropylamide and
trimethylsilyl chloride)

IT 115118-91-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with methyllithium)

IT 107148-25-4P 107148-29-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reactions of, in total synthesis of pseudomonic acid C)

IT 85576-58-5P 107148-20-9P 107148-24-3P 107148-27-6P 115118-73-5P

115118-89-3P 115183-65-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reduction of)

IT 115118-76-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and removal of tert-butyldimethylsilyl group from)

IT 107148-21-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and ring enlargement of, pyranone derivative from)

IT 72042-22-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and saponification of)

IT 107148-22-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and silylation of, in total synthesis of pseudomonic acid C)

IT 85576-59-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and tosylation of)

IT 30379-58-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and tert-butyldimethylsilylation of)

IT 115183-63-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and tert-butyldiphenylsilylation of)

IT 107148-32-3P 107241-79-2P 115118-79-1P 115118-82-6P 115183-66-9P
 115183-67-0P 115183-69-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 89726-74-9P 107148-26-5P 107148-28-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, intermediate in total synthesis of pseudomonic acid C)

IT 54483-22-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation, reduction, and silylation of, in total synthesis of
 pseudomonic
 acid C)

IT 74-99-7, Methylacetylene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with butyllithium and paracetamide derivative, in total
 synthesis of pseudomonic acid C)

IT 18871-66-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dihydropyranol derivative, in total synthesis of
 pseudomonic acid C)

IT 71980-98-8P, Pseudomonic acid C
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (total synthesis of)

IT 3886-69-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (N-acylation of, with hexadienoyl chloride)

IT 78088-28-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (tert-butyldimethyl silylation of)

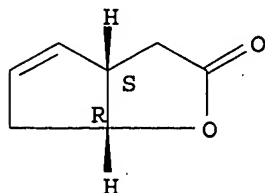
IT 54483-22-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation, reduction, and silylation of, in total synthesis of
pseudomonic
acid C)

RN 54483-22-6 HCAPLUS

CN 2H-Cyclopenta[b]furan-2-one, 3,3a,6,6a-tetrahydro-, (3aS,6aR)- (9CI) (CA
INDEX NAME)

Absolute stereochemistry. Rotation (+).



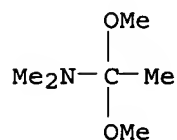
IT 18871-66-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dihydropyranol derivative, in total synthesis of
pseudomonic acid C)

RN 18871-66-4 HCAPLUS

CN Ethanamine, 1,1-dimethoxy-N,N-dimethyl- (9CI) (CA INDEX NAME)



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